

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (currently amended): A thermostat device, ~~incorporated within~~ comprising:
a valve housing provided with a cooling water passage that constitutes a cooling water channel of an internal combustion engine, ~~having~~;
a built-in thermally expansive body that is thermally expanded or contracted by change of temperature of the cooling water, ~~and comprising~~;
a piston rod that is slid by thermal expansion/contraction of ~~[[this]]~~ the thermally expansive body, ~~wherein~~; and
a valve body which is subjected to opening/closing operation with respect to a valve seat formed within said valve housing by sliding of said piston rod in accordance with change of volume of said thermally expansive body,
~~wherein the thermostat device being characterized in that the~~ a valve seat shape further on the downstream side in the direction of flow of the cooling water than the valve seat where said valve body is seated, which is an internal wall face forming the cooling water passage within said valve housing, is formed in a shape such that, in the valve open condition, the cross-sectional area of the passage that is formed between ~~[[the]]~~ an inlet seal of the valve seat on which said valve body is seated and ~~[[the]]~~ a top face of the valve body gradually decreases on the cooling water inlet side with reference to the maximum passage cross-sectional area on the upstream side in the direction of flow of the cooling water, and such that the cross-sectional area of the passage at the face perpendicular to the top face gradually increases on the cooling water outlet side so that cooling water flows along the top face of said valve body.

Claim 2 (currently amended): The thermostat device according to claim 1,
~~characterized in that~~ wherein said valve housing comprises a plurality of support legs that

support a thermoelement in which said thermally expansive body is sealed, and cooling water passages are formed in some of these support legs along the direction of flow of the cooling water.

Claim 3 (currently amended): The thermostat device according to claim 1, further comprising a frame member that supports a thermoelement in which said thermally expansive body is sealed, ~~and characterized in that~~ wherein a hole for passage of cooling water is formed in the bottom face of this frame member.

Claim 4 (currently amended): The thermostat device according to claim 1, ~~characterized in that~~ wherein, at the top face of said valve body, a taper-shaped section is formed that forms a tapered face such that the central section thereof is elevated around the periphery of a thermoelement.

Claim 5 (currently amended): The thermostat device according to claim 2, further comprising a frame member that supports a thermoelement in which said thermally expansive body is sealed, ~~and characterized in that~~ wherein a hole for passage of cooling water is formed in the bottom face of this frame member.

Claim 6 (currently amended): The thermostat device according to claim 2, ~~characterized in that~~ wherein, at the top face of said valve body, a taper-shaped section is formed that forms a tapered face such that the central section thereof is elevated around the periphery of a thermoelement.

Claim 7 (currently amended): The thermostat device according to claim 3, ~~characterized in that~~ wherein, at the top face of said valve body, a taper-shaped section is formed that forms a tapered face such that the central section thereof is elevated around the periphery of a thermoelement.

Claim 8 (new): A thermostat device comprising:

a valve housing having a cooling water passage of an internal combustion engine and
a valve seat formed in the cooling water passage, the valve seat having an inlet seal;

a thermally expansive body which thermally expands and contracts by temperature
change;

a piston rod configured to slide by change in a volume of the thermally expansive
body; and

a valve body configured to open and close the cooling water passage by moving with
respect to the valve seat of said valve housing when said piston rod slides in accordance with
change of the volume of said thermally expansive body, the valve body being configured to
seat on the inlet seal of the valve seat,

wherein said valve housing has an internal wall face forming a portion of the cooling
water passage further on a downstream side of the valve seat, and the internal wall face is
configured such that in a valve open condition, the inlet seal of the valve seat and a top face
of the valve body form a cross-sectional area of the portion of the cooling water passage
which gradually decreases from a maximum passage cross-sectional area on an upstream side
of the valve seat and that a face perpendicular to the top face of the valve body forms a cross-
sectional area of the portion of the cooling water passage which gradually increases.

Claim 9 (new): A thermostat device comprising:

a valve housing having a cooling water passage of an internal combustion engine and
a valve seat formed in the cooling water passage, the valve seat having an inlet seal;

a thermally expansive body which thermally expands and contracts by temperature
change;

a piston rod configured to slide by change in a volume of the thermally expansive
body; and

a valve body configured to open and close the cooling water passage by moving with respect to the valve seat of said valve housing when said piston rod slides in accordance with change of the volume of said thermally expansive body, the valve body being configured to seat on the inlet seal of the valve seat,

wherein said valve housing has an internal wall face forming a portion of the cooling water passage further on a downstream side of the valve seat, and the internal wall face is configured such that in a valve open condition, the inlet seal of the valve seat and a top face of the valve body form a cross-sectional area of the portion of the cooling water passage which gradually decreases from a maximum passage cross-sectional area on an upstream side of the valve seat.